

## USE OF A SINGLE ORAL DOSE OF DOXYCYCLINE MONOHYDRATE FOR TREATING GONORRHEAL URETHRITIS IN MEN

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THE CONTINUING INCREASE in strains of *Neisseria gonorrhoeae* which are relatively resistant to penicillin and the problem of allergy to penicillin create a need for evaluating alternate modes of therapy in gonorrheal urethritis.

Drugs which are absorbed by the blood in quantities adequate to produce cure when the patient is given a single oral dose usually are ideal for treating uncomplicated gonorrheal urethritis. Oral medications preclude painful injections and lessen the risk of anaphylaxis. A single dose is desirable because patients frequently fail to complete longer treatment regimens.

When administered in a single oral dose, tetracycline and certain of its derivatives have been proved adequate in the treatment of uncomplicated gonorrheal urethritis (1). There are, however, instances of gastrointestinal upset following doses as large as those required for a single oral dose regimen. Although the percentage of patients in whom such upsets develop is small, any treatment schedule which reduces these reactions would be desirable.

Doxycycline monohydrate, a tetracycline derivative, produces blood levels of antibiotic equal to or higher than the other tetracyclines given in smaller doses (2). We felt, therefore,

that for treating uncomplicated gonorrheal urethritis a single oral dose of doxycycline monohydrate might provide adequate therapy with a minimum of gastrointestinal intolerance.

### Materials and Methods

Male patients with uncomplicated gonorrheal urethritis diagnosed at the Fulton County Health Department, Atlanta, Ga., were selected for this study.

A clinical diagnosis of gonorrheal urethritis was made in patients having a purulent urethral exudate which on gram-stained smear revealed gram-negative intracellular diplococci morphologically typical of *N. gonorrhoeae*. The clinical diagnosis was confirmed by culture of the exudate on the Thayer-Martin selective medium (3).

Specimens for culture were obtained by intraurethral scrapings with a 2-mm. platinum wire loop and were inoculated immediately on culture plates of Thayer-Martin selective medium and placed in a candle jar for incubation at 35° C.

Presumptive identification of *N. gonorrhoeae* was made on the basis of typical colonial morphology, oxidase reaction, and gram stain. Sugar fermentation studies were not made routinely. Cultures were not considered negative before 48 hours of incubation.

Each patient received 250 mg. (five 50-mg. capsules) of doxycycline monohydrate in a single oral dose and was instructed to return for reexamination in 96 hours. At the followup examination, intraurethral scrapings were again taken for culture.

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## Results

One hundred and sixty-nine males ranging in age from 14 to 48 years and whose conditions were diagnosed as uncomplicated gonorrheal urethritis by the criteria described were studied. Of these, 158 patients returned for followup as instructed. Six had positive cultures at the time of reexamination and were considered treatment failures. All other patients who returned were clinically and culturally negative upon reexamination 96 hours after initial treatment. Thus, among patients returning for followup as instructed, there was a failure rate of 3.8 percent.

The remaining 11 patients returned from 1 to 2 weeks after their condition was originally diagnosed and treated. Of these patients, two had positive cultures on the followup examinations. The others were clinically and culturally negative. Because of the time elapsed between original treatment and followup and since each of the late returnees admitted sexual contact after treatment, the cases of the two patients with positive cultures were very likely reinfections rather than treatment failures.

No statistically significant relationships between age, race, number of previous infections, or duration of symptoms and treatment failure were found.

## Discussion

The cure rate in males with uncomplicated gonorrheal urethritis using a single oral dose of 250 mg. of doxycycline monohydrate in this study was 95.3 percent. If the two cases which were most likely reinfections rather than treatment failures are excluded, the cure rate was 96.4 percent.

Only one case of gastrointestinal intolerance characterized by vomiting occurred. No other adverse side effects were noted.

## Summary

A single oral dose of 250 mg. of doxycycline monohydrate produced a cure rate of 95.3 percent in 169 males with uncomplicated gonorrheal urethritis treated at the Fulton County Health Department, Atlanta, Ga.

Of the 158 patients who returned for followup 96 hours after initial treatment, six had positive cultures and were considered treatment failures. Two of the 11 patients who returned to the clinic 1 to 2 weeks after their condition was diagnosed and treated had positive cultures, and their cases were considered reinfections. Only one incident of gastrointestinal intolerance characterized by vomiting occurred. No other adverse side effects were noted.

No statistically significant relationships between age, race, number of previous infections, or duration of symptoms and treatment failure were found.

## REFERENCES

- (1) McLone, D. G., Kiley, J. D., and Hackney, J. F.: Gonococcal urethritis in males treated with one oral dose of oxytetracycline. *Brit J Vener Dis* 43: 166-167, September 1967.
- (2) Investigators summary of information on doxycycline monohydrate. Medical Department, Pfizer Laboratories, New York, September 1967.
- (3) Martin, J. E., Jr., Billings, T. E., Hackney, J. F., and Thayer, J. D.: Primary isolation of *Neisseria gonorrhoeae* with a new commercial medium. *Public Health Rep* 82: 361-363, April 1967.

## Erratum

In the article by Dr. Robert H. Hutcheson, Jr., entitled "Iron Deficiency Anemia in Tennessee Among Rural Poor Children," appearing in the November 1968 issue of *Public Health Reports*, the first sentence of the second paragraph of the summary on page 943 and of the synopsis on page 986 should be corrected to read as follows:

"A group of 576 children 1-9 years old who had been screened during a 6-month period and found to have hematocrit values of 29 percent or less [not "of 29 gm. or less of hemoglobin per 100 cc of blood"] were selected for treatment with iron."